

To outline the unknown area never seen by man, there have been plotted all drifts of ships as well as sledge expeditions and airplanes & airship flights. The radius of visible horizon (R), computed by using the formula:

- $R = 1.414 \sqrt{H}$  feet, accepted:
- For drifting ships — 15 miles (on the basis of following considerations:
    - height of the ship — most accepted about 50 feet, which gives R of 7.5 miles approx. (length about 15 miles)
    - maximum elevation of hummocks — 50 ft. — R of 7.5 "
    - besides that, all sledge expeditions have taken place during the light season, while ships' drifts have occurred also during the dark season, which certainly reduced their R.
    - although De Long estimates the distance they saw Jeannett I. at about 40 miles, but on the other hand it is known that in other cases the islands have not been seen even from distances much less than that:
      - Vega, Fram, Zaryaz Expeditions did not see the Tsesarevich Aleksei I at a distance of 30 miles from Cape Chelyuskin about 80 feet high.
      - Russian Expedition to the Arctic ("Taimir" and "Vaigach") did not see Jokhov I at a distance of 20 miles in 1913.
      - "Vaigach" (ship expedition) never saw Blyanka I at a distance of 30 miles to the east from her winter quarters at 76° 54' N, L 100° 25' but she saw Jeannett I at a distance of 15 miles only in very favorable atmospheric conditions.

III. For Byrd flight R is accepted equal to 50 miles from Spitzbergen to 60 miles at the North Pole.

IV. For Amundsen and Ellsworth airplane flight in 1925 — R is plotted from "Our Polar Flight", p. 257.

V. For the Norge flight R is accepted as decreasing from 60 miles at the North Pole (that of Byrd) to 30 miles at 84° N, and farther down to Alaska.

VI. For Wilkins flight R is accepted equal to 30 miles (The New York Times, April 8, 1926, although there is indication that altitude of flight was about 7000 feet, which would give R about 90 miles).

Only last drift of the "Maud" is plotted approximately for the lack of information.

N.T.

#### Aerial Exploration of the Arctic.

For the maximum possible unveiling and exploration of the whole unknown space of the Arctic and also to secure the greatest relative safety — the following number of bases and their location is the least number sufficient.

I. With a cruising radius by airplane of 600 naut. miles:

- 7 bases (one on C. Flora is desirable). The most inaccessible are C. Columbia and Kotelni I.

Zones of action — 5 of each base.

II. With a cruising radius by airplane of 1000 naut. miles:

- 3 bases: Spitzbergen, Fort Dickson and C. Barrow.

— All are the most accessible northern points of the Arctic. Besides this the first two have already

powerful wireless stations

Zones of action of each base.

— especially hydrological works in summer.

N.A. Trausche

The lines: C. Barrow — C. Columbia — Spitzbergen — Nicholas II Land — C. Barrow are the courses suggested by N.T. for airplane flights pursuing the end of the maximum possible speculative unveiling of the unknown area. (The curvature of the lines C. Barrow — C. Columbia and Nicholas II Land — C. Barrow might be slightly increased more toward the shores). The flights in April secure the R of 60 miles and the whole visible area is shown on this chart in red.

N.A. Trausche  
October, 1926

Drift of the Svalbard-Bedovitch from Lap to Byrd, Vol. I, 1926	Drift of the Svalbard-Bedovitch from Lap to Byrd, Vol. I, 1926
1000	1000
900	900
800	800
700	700
600	600
500	500
400	400
300	300
200	200
100	100
0	0

Red belt of the "unknown area" between:

1. C. Barrow — C. Columbia — 421800
2. C. Columbia — Spitzbergen — 242000
3. Spitzbergen — Nicholas II Land — C. Barrow — 695600

1359400 sq. km. or about 31% of the whole unknown area

Direction of drift of the "Maud" (see "Maud" des "Nouvelles" de l'Exploration Arctique, L'Exploration Arctique, L'Exploration Arctique, L'Exploration Arctique)

According to Kolchak:  
(The Ice of the Kara & Siberian Seas)  
— Beringovoi Pripai or East Ice — 12 fathoms line  
— Same points of the limit of the Arctic Pack  
— Limit of the Arctic Pack  
— point of intersection of lines:  
— Bennett I. — C. A. Ernest  
— P. Rodolf I. — C. Barrow  
— Direction of the drift of the Arctic Pack.  
Lines:  
— C. Jelaniya — C. Chelyuskin (are the northern conventional limits of the seas)  
— C. Chelyuskin — Kotelni I. (limits of the seas)  
— N. Siberian I. — Wrangel I. Kara, Siberian, Yenigir

Space between the conventional northern limits of the Kara, Siberian & Yenigir Seas and the limit of the Arctic Pack is "The Frontier Region of the Arctic Pack."

According to Neupokoev (Arctic Pilot — Laprise, Hydrog. No. 96, 1923)  
— Ice met by Ross, Hyde, Eya to the Arctic:  
— in 1901  
— 1902  
— 1903  
— 1904  
— Ice met by Vega & Fram

eastern (cold) current along the coast of Chukotka from Holms R. to Bering Strait  
— northern (relatively warm) current from the Bering Sea and its branches

N.T.